Syllabus subtopic: Conservation, environmental pollution and degradation, environmental impact assessment

Prelims and Mains focus: about IMD’s State of Climate Report, 2019 and its findings

News: Extreme weather events driven by climate change claimed as many as 1,659 lives across India in 2019, which ended as the seventh warmest year on record, the India Meteorological Department (IMD) said on Monday.

Remarks of IMD

- It was an extreme year in terms of weather. There were deadly heatwaves in summer and intense cold waves during winter. Several studies have shown that it is all linked to climate change.
- Heavy rain- and flood-related incidents took the maximum toll, claiming more than 850 lives across states, according to the State of the Climate Report-2019 prepared by government’s weather department, which was released on Monday.

State-wise toll

- Bihar bore the brunt with 650 lives lost in the state, out of which 306 were lost in the floods triggered by heavy monsoon rain. Heavy showers also claimed several lives in Maharashtra (136), Uttar Pradesh (107), Kerala (88), Rajasthan (80), and Karnataka (43). Lightning and thunderstorm in these states led to the death of 380 people.

- The toll is derived from government reports and the actual toll could be higher. However, it is true that floods are causing the maximum casualty. This is one area that IMD is focusing on, developing early flood warning systems for cities. However, the management on ground based on those warnings has to be quick and adequate as well.

- The searing temperatures during summer led to heat-waves, killing 350 people. Of these, 292 were reported from Bihar alone, followed by 44 in
Maharashtra, and 13 in Jharkhand.

- If summer was dominated by heatwaves, severe cold wave and cold conditions swept large parts of northwest India in December, killing more than 28 people in Uttar Pradesh.

- Snowfall and avalanche-related incidents killed 33 people in Jammu and Kashmir and 18 in Leh.

- The national capital recorded the longest cold spell of 18 days, with the maximum day-time temperature plummeting to the lowest ever (since 1902) of 9.4°C on 30 December.

**Severe impact**

- However, the most evident impact was seen on the oceans, with one of the most intense cyclone seasons ever. As many as eight cyclonic storms formed over the Indian seas, including five in the Arabian Sea, compared to the usual one per year.

- The assessment showed that India’s annual mean surface air temperature was +0.36°C above the 1981-2010 period average during all the four seasons in 2019, with the monsoon (June-September) being the warmest since 1901.

- The temperature was substantially lower than the surface air temperature in 2016, but scientists warned that the threat of climate change, if not dealt with, could lead to many more extreme weather events.

- The year 2016 remains the warmest year on record for India so far, followed by 2009, 2017, 2010, and 2015.

**Way ahead**
Extreme weather events are on the rise and we have been seeing this for the last few years. The challenge is to work on our early warning systems and prepare in advance.